

ABSTRACT OF THE INVENTION

A transfer mechanism between a first vessel containing a slurry of liquid and solids and a second vessel with at least one of said first and second vessels being under a protective atmosphere and/or vacuum. There is a housing in communication with the first and second vessels with a screw having at least one helical thread along the longitudinal shank within the housing for transferring material between vessels. The slurry entering the housing from the first vessel has the solids therein concentrated as the slurry is transported toward the second vessel while liquid is expressed from the slurry until the concentrated solids form a plug isolating the two second vessels as solids discharge into the second vessel.